

Tennessee Pollution Prevention Partnership Success Story



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Facility Adds Small Air Compressor For Off Peak Demand

The Member

Frito-Lay Fayetteville is a PepsiCo Company production facility located in Lincoln County. This manufacturing facility has been in operation since 1997 producing potato and corn chip snacks. The plant has 450 highly trained team members who work diligently everyday to deliver quality products to our discriminating customers.

Frito-Lay is committed to conducting its business operations in a manner that is consistent with concern and respect for our fragile environment. Toward this end, operational decisions reflect our strong belief in sound environmental management and environmental conservation as we faithfully seek to comply with all federal, state, and local environmental laws, rules, and regulations.

The Story

Frito-Lay has an aggressive Resource Conservation Program that has generated significant reduction in energy and utilities since the plant started operations. Emerging new technologies continue to provide opportunities and help the plant sustain continuous improvement in this endeavor. The plant has realized substantial financial benefits from this and prior projects allowing it to remain competitive and profitable in a tough consumer market. Currently the plants greatest opportunities for future energy conservation are primarily identified during the non-productive load periods.

Compressed Air Upgrades:

The plant recently completed installation of a 200 HP dry screw air compressor as a complement to the high efficiency output 500 HP three-stage compressor (also installed in 2002 replacing an old 400 HP unit). Generally only the 500 Hp compressor is utilized during the production week when the plant is operating

at capacity. The plant however retained an old 300 HP compressor, which is occasionally utilized as back up and to support the 500 HP unit during peak demand. The 500 Hp three-stage compressor runs more efficiently than the two old two-stage unit, which it replaced. The 200 HP compressor is utilized specifically on weekends instead of a larger unit when the demand for air is far less. The 200 Hp uses significantly less energy to operate than the other compressors, is adequate for the weekend demand, and is a capable back up system for the large unit.

The maintenance team reviews the production schedule each week and operates the air compressors accordingly to save energy during reduced and non-production periods. The plant requires air continuously for sanitation and other essential facility equipment but not the amount required with full production.

The Success

The site realized a reduction of 223,800 kWh annually by utilizing this arrangement. The plant was also able to free up more time on the main unit for preventative maintenance. The total annual electrical savings to the plant is \$11,000.

The Pollution Prevented

The reduced energy demand for the facility is an equal reduction to the power supplier who produces the electricity. This reduction potentially prevents annual emissions of 495,717 pounds of CO₂, 1300 pounds of NO_x, and 2587 pounds of SO₂. This is equivalent to taking fifty cars off the road or planting sixty-eight acres of trees.

1700 tons of Sulfur Dioxide and 615 tons of Nitrous Oxides per year

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